

**INITIAL STATEMENT OF REASONS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
REGARDING THE ADOPTION BY REFERENCE OF THE  
2005 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC)  
WITH PROPOSED AMENDMENTS INTO THE 2007 CALIFORNIA  
ELECTRICAL CODE (CEC)  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 3**

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**Subject:** Regulations regarding the adoption by reference of the 2005 edition of the National Electrical Code (NEC) and specified State amendments into California Building Standards Code, Part 3 of Title 24 of the California Code of Regulations (CCR).

**Part Affected: Part 3, Title 24, CCR**

The Administrative Procedure Act requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action.

**1) Administrative Requirement.**

Health and Safety Code Section 17922 directs the Department of Housing and Community Development (HCD) to recommend adoption of the most recent edition of the NEC into Part 3, of Title 24, CCR.

**2) Specific Purpose**

The California Building Standards Commission (CBSC) selected the 2005 NEC published by the National Fire Protection Association as the model code to be referenced in Title 24, Part 3, CCR for the 2007 code adoption cycle.

**The specific purpose** of these regulations is to adopt by reference the 2005 edition of the NEC, with State amendments, as indicated on the attached Adoption Matrix, into Part 3, Title 24, CCR for the following programs:

**a) State Housing Law:** relative to residential occupancies, buildings or structures accessory thereto.

**b) Employee Housing Act:** relative to the use of electrical equipment and systems in or on any building or structure or outdoors on premises or property in accordance with Health and Safety Code Section 17040.

**c) Mobilehome Parks and Special Occupancy Parks:** relative to the use of electrical equipment and systems in or on any permanent buildings within the park in accordance with Health and Safety Code Sections 18300, 18670, 18865 and 18873.3.

**d) Factory-Built Housing Law:** relative to residential buildings, dwellings or portions thereof, or building component, or manufactured assembly in accordance with Health and Safety Code Section 19990.

### **3) Rationale for Necessity.**

The National Fire Protection Association published and made available in November, 2004, the 2005 edition of the NEC. The NEC will automatically become adopted, in its entirety, pursuant to Health and Safety Code Section 17922 (b), in November, 2005 (one year from its date of publication), if not adopted or proposed for adoption by HCD to the CBSC prior to that date.

If the 2005 NEC becomes adopted in its entirety without being adopted by the CBSC, such automatic adoption would cause considerable confusion because California amendments, also known as "State amendments," are necessary modifications to the model code language to ensure that the 2007 CEC is consistent with state law and unique California conditions.

**It is necessary to propose the adoption** of some sections of the 2005 NEC with amendments to the model code language to incorporate state law provisions and to accommodate unique California conditions.

**It is necessary not to propose the adoption** of some sections of the 2005 NEC as they would conflict with existing state law and to accommodate unique California conditions.

**It is necessary to propose to bring forward** previously existing State amendments. Some existing amendments will be brought over without any changes and will represent no change in their effect from the 2004 California Electrical Code. Other previously existing State amendments will be amended as follows:

- Add or change the reference to the application authority [HCD1, HCD 1/AC, and/or HCD 2].
- Amend language for consistency with existing state and federal law.
- Amendment language indicating that specified model code language of the 2005 edition of the NEC is not adopted into the 2007 CEC.

#### **4) Proposed Regulatory Actions.**

### **Article 89 - Administration**

**Section 89.1** Title

**Section 89.2** Purpose

**Section 89.3** Scope

**Section 89.4** Exempted from this Code

**Section 89.5** Non-Building Standards, Orders and Regulations

**Section 89.6** Order of Precedence and Use

**Section 89.6.1** Local Variances

**Section 89.6.2** Findings, Filing, and Rejections of Local Variances

**Section 89.7** Application

**Section 89.7(C)** HCD-Department of Housing and Community Development

**Section 89.7(C)(1)** HCD-1-Department of Housing and Community Development

**Section 89.7(C)(2)** HCD-1/AC-Department of Housing and Community

Development

**Section 89.7(C)(3)** General – State Housing Law; City or County Enforcement

**Section 89.7(C)(4)** Right of Entry for Enforcement

**Section 89.7(C)(5)** Unsafe Buildings or Structures

**Section 89.7(C)(5)(a)** State Housing Law

**Section 89.7(C)(5)(b)** Employee Housing

**Section 89.7(C)(6)** Violations

**Section 89.7(C)(6)(a)** Actions and Proceedings State Housing Law

**Section 89.7(C)(6)(b)** Actions and Proceedings Employee Housing

**Section 89.7(C)(7)** Methods of Approval and Alternates

**Section 89.7(C)(7)(a)** Alternate for Materials, Designs, Tests and Methods of Construction State Housing Law

**Section 89.7(C)(7)(b)** Alternate for Materials, Designs, Tests and Methods of Construction Employee Housing

**Section 89.7(C)(8)** Fees and Plan Review

**Section 89.7(C)(8)(a)** General

**Section 89.7(C)(8)(b)** Plan Review and Time Limitations

**Section 89.7(C)(8)(c)** Retention of Plans

**Section 89.7(C)(9)** HCD-2-Department of Housing and Community Development

**Section 89.7(C)(9)(a)** Right of Entry For Enforcement

**Section 89.7(C)(9)(b)** Actions and Proceedings

**Section 89.7(C)(9)(c)** Alternate for Materials, Designs, Tests and Methods of Construction

**Section 89.8** Adopting Agency

**Section 89.9** Format

**Section 89.10** Validity

**Section 89.11** Standard Reference Documents

**Specific Regulatory Action**

Article 89 is an existing California amendment in the 2004 CEC that is being brought forward to the 2007 CEC, which provides the purpose, scope, administrative authority, and application to local enforcement agencies. HCD is proposing the adoption of only those sections within existing Article 89 indicated above and on the attached matrix table.

HCD is proposing to renumber sections contained in 89.7 to be consistent with the model code format.

HCD is proposing new amendment language for 89.7(C)(2) to implement Government Code Section 12955.1, incorporate requirements of the Federal Fair Housing Amendments Act, and provide correlation of the California Building Standards Code. Language in this section has been struck out or modified and relocated to Sections 1101A and 1102A of the California Building Code. The language has been modified to provide clarity, specificity, and to provide direction for the code user. In addition formatting modifications have been made to the title and the "HCD 1A/C" banner.

HCD is proposing the modification of Sections 89.7(C)(9)(a), (b), and (c) to separate the requirements of Special Occupancy Parks from Mobilehome Parks within this section. This modification is necessary due to a statutory change establishing a separate Act for Special Occupancy Parks, which was placed in Health and Safety Code commencing with Section 18860 (Chapter 434 of the Statutes of 2001)

HCD is proposing the modification of Section 89.7(C)(9)(a) to include Health and Safety Code Section 18866 to provide clarity to the user as it relates to the statutory change for special Occupancy Parks.

HCD is proposing editorial modifications to Sections 89.6.2, 89.7(C)(1), (2), (3), (4), (5)(a) & (b), (6)(a) & (b), (7)(a) & (b), (8)(a)(b) & (c) for grammar and/or references to other regulations or statutes.

**Article 90 – Introduction.** This article provides direction to the user regarding code arrangement, the rules used within, and the intent of the NEC.

**Specific Regulatory Action**

HCD is proposing the adoption of Article 90 without amendment. Article 90 provides the introduction to the NEC and explains the purpose of the NEC as

“the practical safeguarding of persons and property from hazards arising from the use of electricity.”

## **CHAPTER 1: General, Articles 100-110**

**Article 100** Definitions

**Article 110** Requirements for Electrical Installations

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 100 and 110 of Chapter 1 without amendments. Article 100 contains those definitions essential to the proper application of this Code. Article 110 covers general requirements for the examination and approval, installation and use, access to and spaces about electrical conductors and equipment, and tunnel installations.

## **CHAPTER 2: Wiring and Protection, Articles 200-285**

**Article 200** Use and Identification of Grounded Conductors

**Article 210** Branch Circuits

**Article 215** Feeders

**Article 220** Branch-circuit, Feeder and Service Calculations

**Article 225** Outside Branch Circuits and Feeders

**Article 230** Services

**Article 240** Overcurrent Protection

**Article 250** Grounding

**Article 280** Surge Arresters

**Article 285** Transient Voltage Surge Suppressors: TVSSs

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 200, 210, 215, 220, 225, 230, 240, 250, 280, and 285 of Chapter 2 without amendments. This chapter covers the topics listed above. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

## **CHAPTER 3: Wiring Methods and Materials, Articles 300-398**

**Article 300** Wiring Methods.

**Article 310** Conductors for General Wiring.

**Article 312** Cabinets, Cutout Boxes, and Meter Socket Enclosures.

**Article 314** Outlet, Device, Pull and Junction Boxes; Conduit Bodies; Fittings; and Handhole Enclosures.

**Article 320** Armored Cable: Type MC.

**Article 322** Flat Cable Assemblies: Type FC.  
**Article 324** Flat Conductor Cable: Type FCC  
**Article 326** Integrated Gas Spacer Cable: Type IGS  
**Article 328** Medium Voltage Cable: Type MV  
**Article 330** Metal-Clad Cable: Type MC  
**Article 332** Mineral-insulated, Metal-Sheathed Cable: Type MI.  
**Article 334** Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS.  
(W/Amendment)  
**Section 334.10** Note: [HCD 1 and HCD 2]  
**Article 336** Power and Control Tray Cable: Type TC  
**Article 338** Service-Entrance Cable: Types SE and USE  
**Article 340** Underground Feeder and Branch-Circuit Cable: Type UF  
**Article 342** Intermediate Metal Conduit: Type IMC  
**Article 344** Rigid Metal Conduit: Type RMC  
**Article 348** Flexible Metal Conduit: Type FMC  
**Article 350** Liquidtight Flexible Metal Conduit: Type LFMC  
**Article 352** Rigid Nonmetallic Conduit: Type RNC  
**Article 353** High Density Polyethylene Conduit: Type HDPE Conduit  
**Article 354** Nonmetallic Underground Conduit with Conductors: Type NUCC  
**Article 356** Liquidtight Flexible Nonmetallic Conduit: Type LFNC  
**Article 358** Electrical Metallic Tubing: Type EMT  
**Article 360** Flexible Metallic Tubing: Type FMT  
**Article 362** Electrical Nonmetallic Tubing: Type ENT  
**Article 366** Auxiliary Gutters  
**Article 368** Busways  
**Article 370** Cablebus  
**Article 372** Cellular Concrete Floor Raceways  
**Article 374** Cellular Metal Floor Raceways  
**Article 376** Metal Wireways  
**Article 378** Nonmetallic Wireways  
**Article 380** Multioutlet Assembly  
**Article 382** Nonmetallic Extensions  
**Article 384** Strut-Type Channel Raceway  
**Article 386** Surface Metal Raceways  
**Article 388** Surface Nonmetallic Raceways  
**Article 390** Underfloor Raceways  
**Article 392** Cable Trays  
**Article 394** Concealed Knob-and-Tube Wiring (W/Amendment)  
**Section 394.12** Exception: [HCD 1] (exceptions 1 through 6)  
**Article 396** Messenger Supported Wiring  
**Article 398** Open Wiring on Insulators

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 300, 310, 312, 314, 320, 322, 324, 326, 328, 330, 332, 336, 338, 340, 342, 344, 348, 350, 352, 354, 356, 358,

360, 362, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 396, and 398 of Chapter 3 without amendments. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

HCD is proposing to continue the adoption of Article 334 with amendment. HCD believes that the FPN (Fine Print Note) of Section 334.10, which is not enforceable, does not provide the user with adequate direction; therefore, HCD is proposing to continue the adoption of the “Note” for clarity and specificity. This note will provide the user with a specific reference code, The California Building Code, for Type III, IV, and V construction as used in Section 334.10, items (2), (3), and (4). Item 4 was added within the model code language and included within the scope of our amendment.

HCD is proposing to continue the adoption of Article 394 as amended for HCD 1. The amendment provides specificity for the code user as it relates to the use of knob and tube wiring in California.

#### **CHAPTER 4: Equipment for General Use, Articles 400-490.**

**Article 400** Flexible Cords and Cables

**Article 402** Fixture Wires

**Article 404** Switches

**Article 406** Receptacles, Cord Connectors, and Attachment Plugs (Caps)

**Article 408** Switchboards and Panelboards

**Article 409** Industrial Control Panels

**Article 410** Luminaries (Lighting Fixtures), Lampholders, and Lamps

**Article 411** Lighting Systems Operating at 30 Volts or Less

**Article 422** Appliances

**Article 424** Fixed Electric Space-Heating Equipment

**Article 426** Fixed Outdoor Electric Deicing and Snow-Melting Equipment

**Article 427** Fixed Electric Heating Equipment for Pipelines and Vessels

**Article 430** Motors, Motor Circuits and Controllers

**Article 440** Air-Conditioning and Refrigerating Equipment

**Article 445** Generators

**Article 450** Transformers and Transformer Vaults (Including Secondary Ties)

**Article 455** Phase Converters

**Article 460** Capacitors

**Article 470** Resistors and Reactors

**Article 480** Storage Batteries

**Article 490** Equipment, Over 600 Volts, Nominal

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 400, 402, 404, 406, 408, 410, 411, 422, 424, 426, 427, 430, 440, 445, 450, 455, 460, 470, 480, and 490 of Chapter 4 without amendments. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

### **CHAPTER 5: Special Occupancies, Articles 500-590.**

**Article 500** Hazardous (Classified) Locations, Classes I, II, and III, Divisions 1 and 2.

**Article 501** Class I Locations

**Article 502** Class II Locations

**Article 503** Class III Locations

**Article 504** Intrinsically Safe Systems

**Article 505** Class I, Zone 0, 1, and 2 Locations

**Article 506** Zone 20, 21, and 22 Locations for Combustible Dusts, Fibers, and Flyings

**Article 510** Hazardous (Classified) Locations - Specific

**Article 511** Commercial Garages, Repair and Storage

**Article 513** Aircraft Hangers

**Article 514** Motor Fuel Dispensing Facilities

**Article 515** Bulk Storage Plants

**Article 516** Spray Application, Dipping, and Coating Processes

**Article 517** Health Care Facilities

**Article 518** Assembly Occupancies

**Article 520** Theaters, Audience Areas of Motion Picture and Television Studios, Performance Areas, and Similar Locations

**Article 525** Carnivals, Circuses, Fairs, and Similar Events

**Article 530** Motion Picture and Television Studios and Similar Locations

**Article 540** Motion Picture Projection Rooms

**Article 545** Manufactured Buildings

**Article 547** Agricultural Buildings

**Article 550** Mobile Homes, Manufactured Homes, and Mobile Home Parks

**Article 551** Recreational Vehicles and Recreational Vehicle Parks

**Article 552** Park Trailers

**Article 553** Floating Buildings

**Article 555** Marinas and Boatyards

**Article 590** Temporary Installations

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 518, 545, and 590 of Chapter 5 without amendments. Adoption of these articles will provide the user with



code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

HCD is proposing to **not** adopt Articles 500, 501, 502, 503, 504, 505, 506, 510, 511, 513, 514, 515, 516, 517, 520, 525, 530, 540, 547, 550, 551, 552, 553, and 555 of the 2005 NEC. The regulations covered by these articles do not fall within the occupancies regulated by HCD.

## **CHAPTER 6: Special Equipment, Articles 600-695.**

**Article 600** Electric Signs and Outline Lighting

**Article 604** Manufactured Wiring Systems

**Article 605** Office Furnishings (Consisting of Lightning Accessories and Wired Partitions)

**Article 610** Cranes and Hoists

**Article 620** Elevators, Dumbwaiters, Escalators, Moving Walks, Wheelchair Lifts, and Stairway Chair Lifts

**Article 625** Electric Vehicle Charging System (W/SFM Amendment)

**Article 630** Electric Welders

**Article 640** Audio Signal Processing, Amplification, and Reproduction Equipment

**Article 645** Information Technology Equipment

**Article 647** Sensitive Electronic Equipment

**Article 650** Pipe Organs

**Article 660** X-Ray Equipment

**Article 665** Induction and Dielectric Heating Equipment

**Article 668** Electrolytic Cells

**Article 669** Electroplating

**Article 670** Industrial Machinery

**Article 675** Electrically Driven or Controlled Irrigation Machines

**Article 680** Swimming Pools, Fountains, and Similar Installations

**Article 682** Natural and Artificially Made Bodies of Water

**Article 685** Integrated Electrical Systems

**Article 690** Solar Photovoltaic Systems

**Article 692** Fuel Cell Systems

**Article 695** Fire Pumps

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 600, 620, 680, 682, 690, and 692 of Chapter 6 without amendments. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

HCD is proposing to **not** adopt Articles 604, 605, 610, 630, 640, 645, 647, 650, 660, 665, 668, 669, 670, 675, 685, and 695 of the 2005 NEC. The code provisions covered by these articles do not fall within the occupancies regulated by HCD.

HCD is proposing the adoption of Article 625 with Office of the State Fire Marshal amendments.

## **CHAPTER 7: Special Conditions, Articles 700-780.**

**Article 700** Emergency Systems

**Article 701** Legally Required Standby Systems

**Article 702** Optional Standby Systems

**Article 705** Interconnected Electric Power Production Sources

**Article 720** Circuits and Equipment Operating at Less Than 50 Volts

**Article 725** Class 1, Class 2, and Class 3 Remote-Control, Signaling, and Power-Limited Circuits.

**Article 727** Instrumentation Tray cable: Type ITC.

**Article 760** Fire Alarm Systems

**Article 770** Optical Fiber Cables and Raceways

**Article 780** Closed-Loop and Programmed Power Distribution

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 700, 702, 705, 720, 725, 727, and 770 of Chapter 7 without amendments. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies, accessory structures and permanent buildings and structures regulated by HCD.

HCD is proposing to **not** adopt Articles 701, 760, and 780 of the 2005 NEC. The code provisions covered by these articles do not fall within the occupancies regulated by HCD.

## **CHAPTER 8: Communications Systems, Articles 800-830.**

**Article 800** Communication Circuits

**Article 810** Radio and Television Equipment

**Article 820** Community Antenna Television and Radio Distribution Systems

**Article 830** Network-Powered Broadband Communications Systems

### **Specific Regulatory Action**

HCD is proposing the adoption of Articles 800, 810, 820, and 830 of Chapter 8 without amendments. Adoption of these articles will provide the user with code provisions for application in the construction of residential occupancies,

accessory structures and permanent buildings and structures regulated by HCD. In addition, members of the California Building Standards Commission requested HCD propose for adoption Chapter 8 of the 2005 NEC during the code adoption cycle. HCD has conducted a fact-finding analysis, concurs with this request, and is proposing the adoption of Chapter 8.

## **CHAPTER 9: Tables**

**Table 1** Percent of Cross Section of Conduit and Tubing for Connectors

**Table 2** Radius of Conduit and Tubing Bends

**Table 4** Dimensions and Percent Area of Conduit and Tubing (Areas of Conduit or Tubing for the Combinations of Wires Permitted in Table 1, Chapter 9)

**Table 5** Dimensions of Insulated Conductors and Fixture Wires

**Table 5A** Compact Aluminum Building Wire Nominal Dimensions and Areas

**Table 8** Conductor Properties

**Table 9** Alternating-Current Resistance and Reactance for 600-Volt Cables, 3-Phase, 60 HZ, 75°C (167°F)-Three Single Conductors in Conduit

**Table 11(A)** Class 2 and Class 3 Alternating-Current Power Source Limitations

**Table 11(B)** Class 2 and Class 3 Direct-Current Power Source Limitations

**Table 12(A)** PLFA Alternating-Current Power Source Limitations

**Table 12(B)** PLFA Direct-Current Power Source Limitations

### **Specific Regulatory Action**

HCD is proposing the adoption of the Tables in Chapter 9 without amendments. The Tables in Chapter 9 provide a useful tool for the user and the information found in the tables are applicable as referenced to the articles within this code.

## **ANNEXES**

**ANNEX A: Product Safety Standards.**

**ANNEX B: Application Information for Ampacity Calculation.**

**ANNEX C: Conduit and Tubing Fill Tables for Conductors and Fixture Wires of the Same Size.**

**ANNEX D: Examples.**

**ANNEX E: Types of Construction.**

**ANNEX F: Cross-Reference Tables**

**ANNEX G: Administration and Enforcement**

### **Specific Regulatory Action**

HCD is proposing to **not** adopt Annexes A, B, C, D, E, F, and G of the 2005 NEC. The language within the annexes is non-mandatory and is not part of the requirements or recommendations of the 2005 NEC; it has been included

for informational purposes only. The Annexes are available for use by local enforcement agencies without HCD adoption.

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## **DETERMINATIONS**

### **AN IDENTIFICATION OF EACH TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENT UPON WHICH THE AGENCY IS RELYING IN PROPOSING THE ADOPTION, AMENDMENT, OR REPEAL.**

None.

### **ALTERNATIVES TO THE REGULATION**

**None.** As to use of the NEC, there were no alternatives available to HCD. HCD is required by statute to adopt this model code by reference.

### **ALTERNATIVES HCD HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS**

HCD has determined that this regulatory action would have no significant adverse economic impact on California business enterprises and individuals, including the ability of California businesses to compete with businesses in other states. (See *Economic Impact of the Proposed National Electrical Code Regulations on Private Persons and Businesses in the State of California* in this rulemaking file.)

### **FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESS.**

None.

### **DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS**

These regulations do not duplicate nor conflict with Federal regulations.

### **EFFECT ON PRIVATE PERSONS**

No alternative which was considered would be either more effective than or equally as effective as and less burdensome to affected private persons than the proposed regulations.

Set forth below are the alternatives which were considered and the reasons each alternative was rejected:

**None.** There were no alternatives available to HCD. HCD is required by statute to adopt this model code. (See *Economic Impact of the Proposed National Electrical Code Regulations on Private Persons and Businesses in the State of California* in the rulemaking file.)

#### **SPECIFIC TECHNOLOGY OR EQUIPMENT**

**None.**